

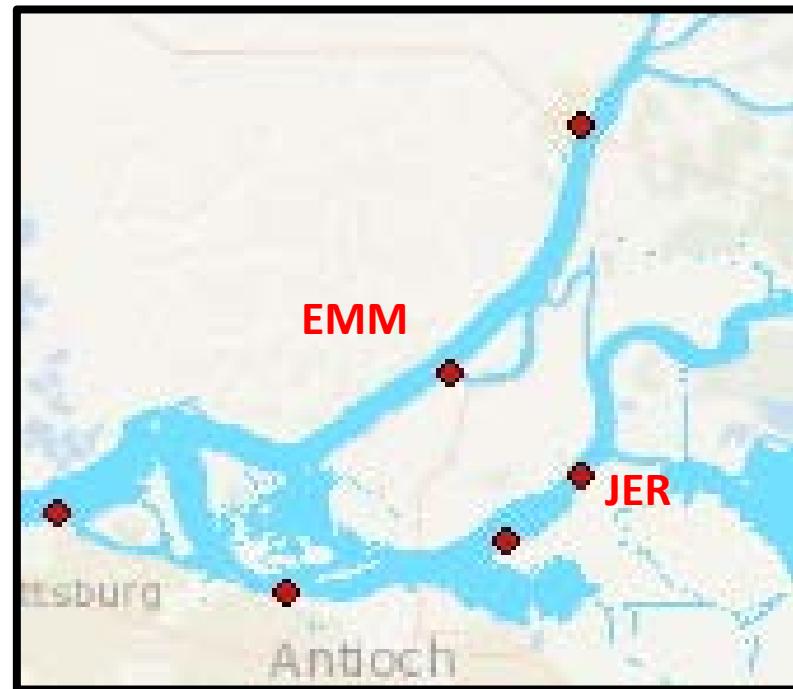
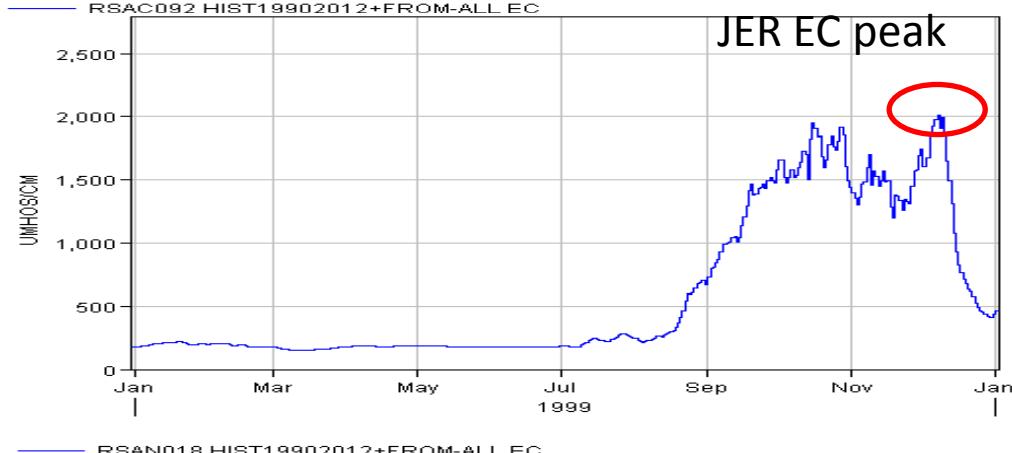
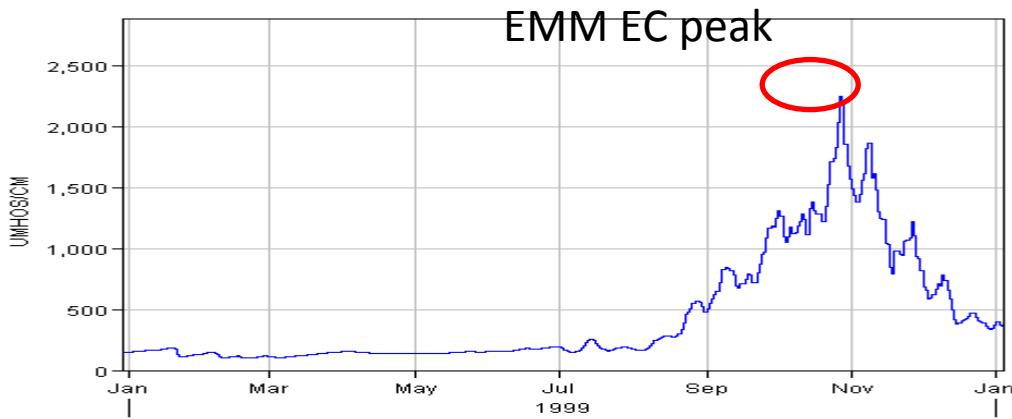
# Determining the Maximum Salinity Intrusion of the Delta

Yu Zhou, P.E.

Bay-Delta Office, DWR

# EC Trend can differ by Location

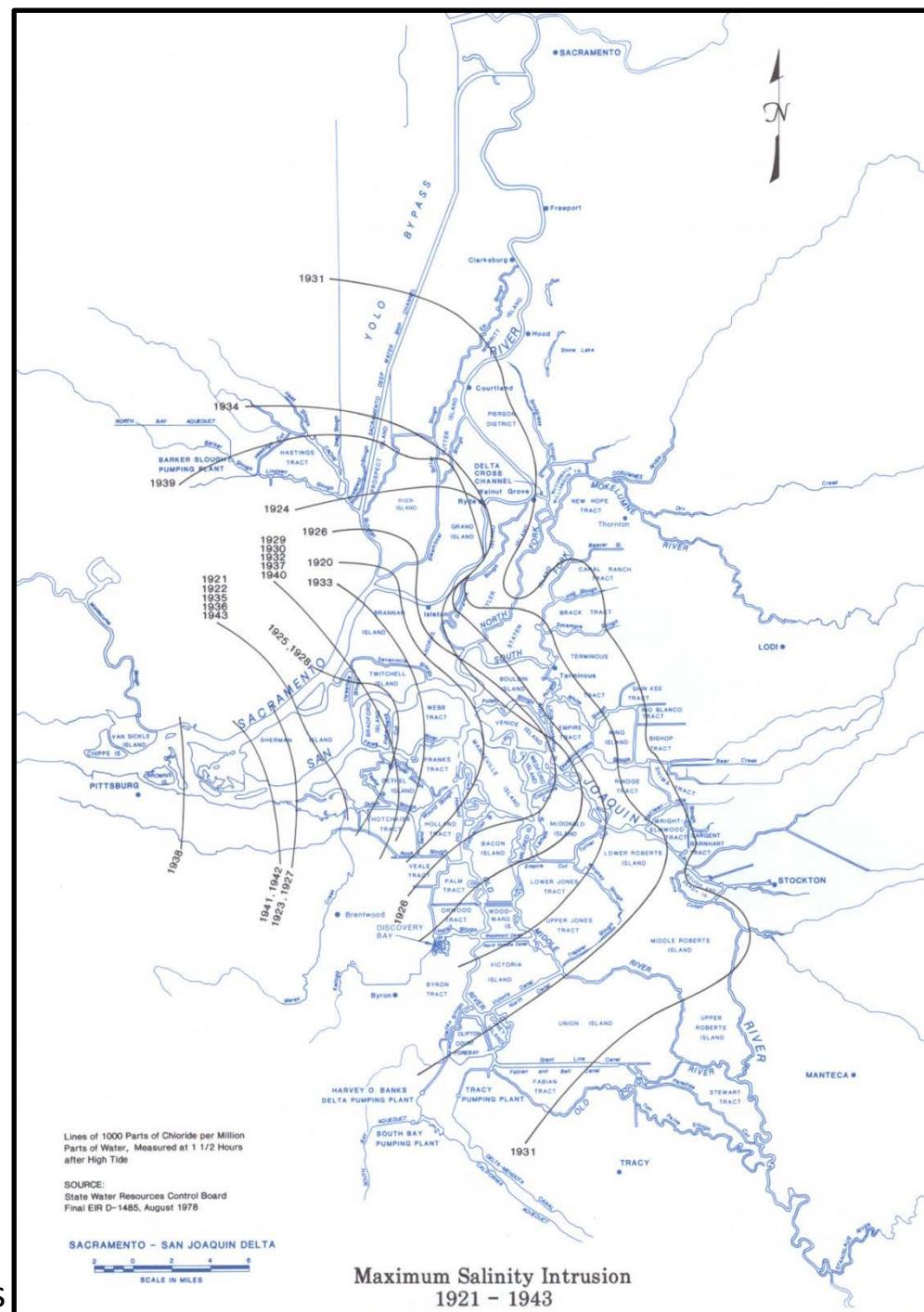
Example: Emmaton and Jersey Point



# Maximum Yearly Salinity Intrusion

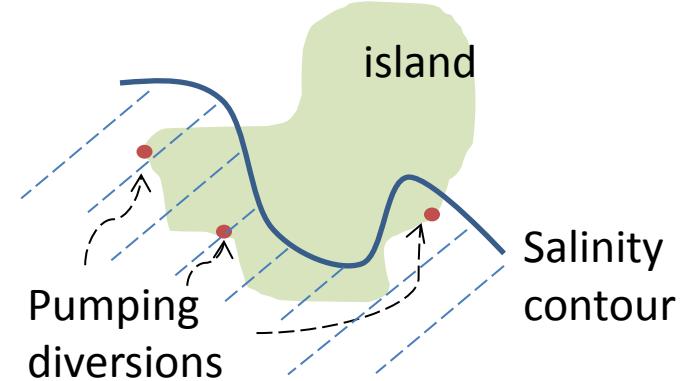
- Describe extreme events.
- Show areal extent of intrusion.
- Impact on islands and agricultural diversions
- Compare scenarios (e.g. forecasts)
- Validate model simulation of drought conditions.
- Potential basis for modifying agriculture diversions.

Map source: DWR Delta Atlas



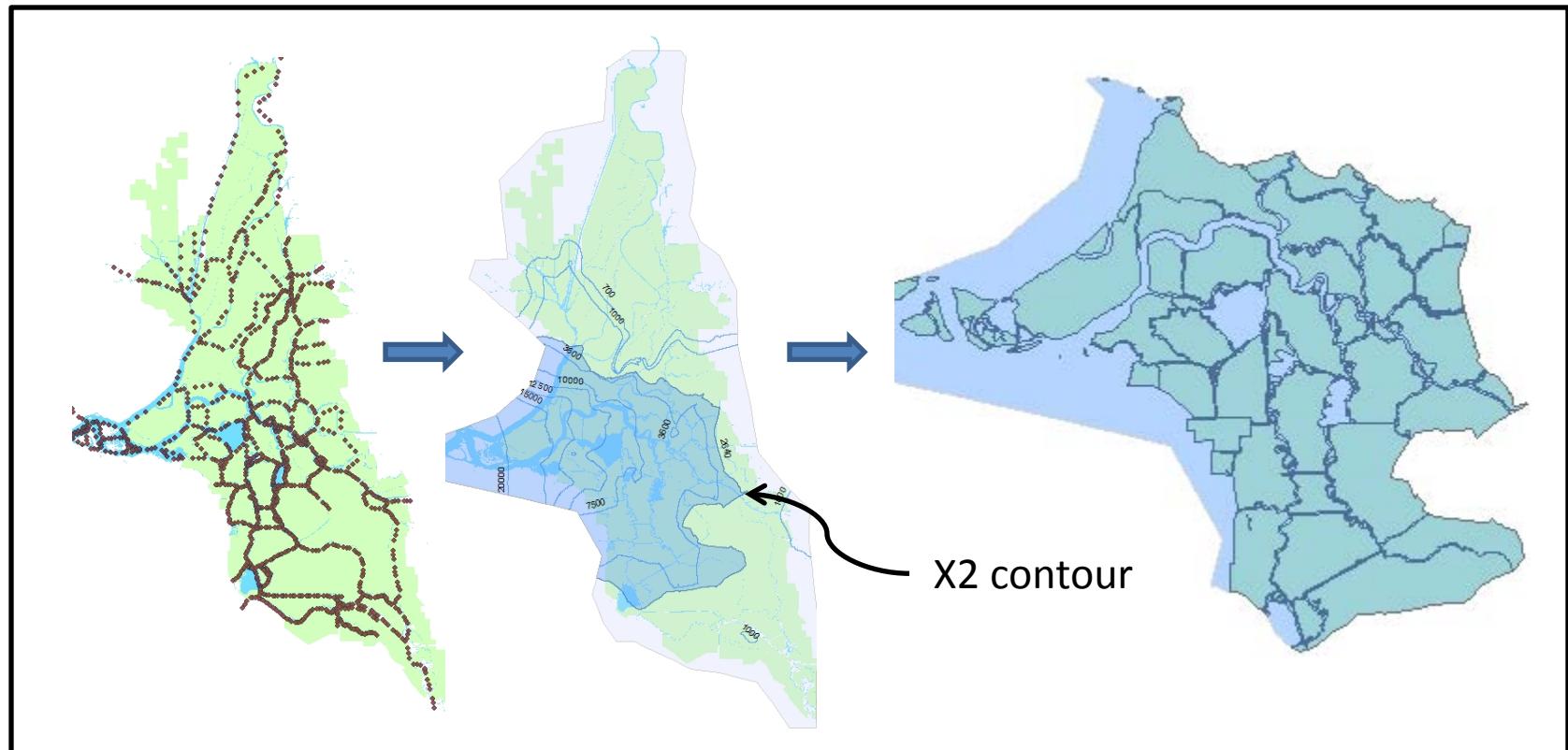
# Using GIS to Delineate Salinity Contours & Influential Regions

- DSM2-QUAL outputs/historical data -> GIS salinity contours, Influential Regions
- Automate, Facilitate, Animate
- Specify any salinity levels (X2, 2640 uS/cm; 1000 ppm Chloride).
- Deal with case of contours crossing islands, ag pumping locations.

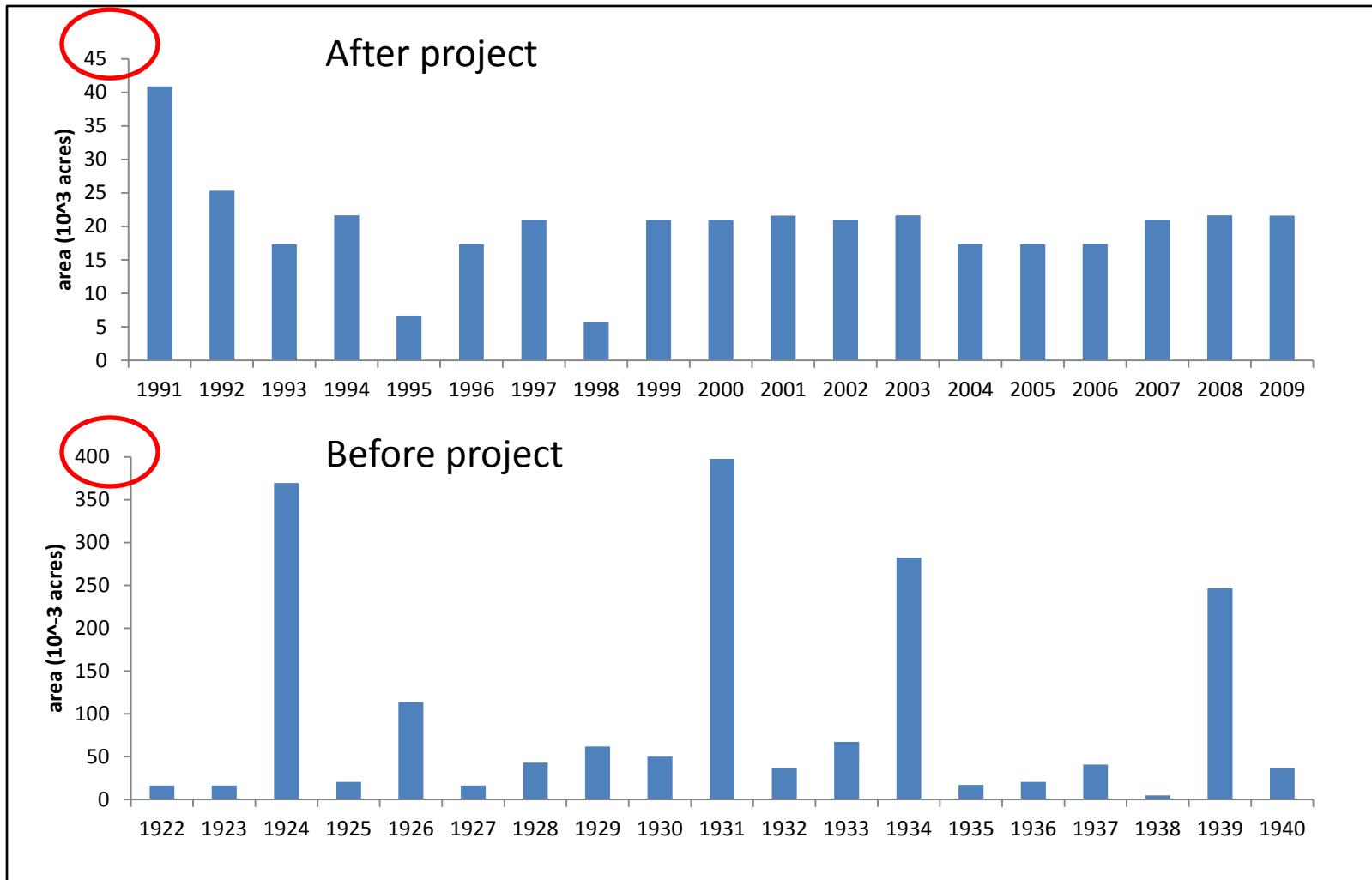


# Using GIS to Delineate the Maximum Salinity Intrusion

- Max Salinity Intrusion, defined as the date with most Delta islands acreage falling within X2.
- Alt.: Agriculture land subjected to 1000 ppm Chloride (ref. Bulletin 132-78)



# Maximum Yearly Salinity Intrusion based on DSM2 simulated X2



# Future Work

- Link GIS, DSM2-based EC contours with geo-referenced agriculture diversion locations.
- Refine estimation of impact to Delta agriculture due to salinity intrusion associated with extreme low outflow conditions.